Land Treatment Practice Narratives

327 Conservation Cover
Establish perennial vegetative cover on land temporarily removed from agricultural production.
Seed [ ] @ [ ] Lbs./ac during the period [specify seeding period] dates,
Plus Seed [ ] @ [ ] Lbs./ac,
Plus Seed [ ] @ [ ] Lbs./ac

Fertilizer Application:
Apply [ ] Lbs of Nitrogen/Acre, plus [ ] Lbs of Phosphorus (P_2O_5)/Acre, plus [ ] Lbs of Potash (K_2O)/Acre. Or, apply [ ] Lbs per acre of the analysis [ ].

328 Conservation Crop Rotation
Grow crops in a planned rotation for biodiversity and to provide adequate amounts of organic material for erosion reduction, nutrient balance and sustained soil organic matter.
The following rotation(s) are planned for the designated fields:
Fields [ ] - Rotation [ ]
Fields [ ] - Rotation [ ]
Fields [ ] - Rotation [ ]

Crop Substitutions – weather and other natural causes may require a change in crop rotation for one year. The following crops may be substituted for one another:
[crop x] for [crop y] – Additional management needed [ ]
[crop x] for [crop y] – Additional management needed [ ]
[crop x] for [crop y] – Additional management needed [ ]

329 Residue Management, No-Till and Strip Till
Crop residues will be left on the soil surface on a year-round basis and crops planted using no till/strip till planters or drills.

Operation and Maintenance:
Plant crops in narrow slots or narrow tilled strips in previously untilled soil.
The [ ] crop(s) will be no tilled into [ ] residue with [ ] % crop residue cover after planting.
The [ ] crop(s) will be no tilled into [ ] residue with [ ] % crop residue cover after planting.
The [ ] crop(s) will be no tilled into [ ] residue with [ ] % crop residue cover after planting.

330 Contour Farming
Perform all tillage and planting operations parallel to contour baselines or [terraces, diversions, or contour buffer strip] boundaries.

Operation and Maintenance:
Where terraces, diversions, or contour buffer strips are not present, maintain contour markers on grades that, when followed during establishment of each crop, will maintain crop rows at designed grades. Contour markers may be field boundaries, a crop row left untilled near or on an original contour baseline, or another readily identifiable, continuous, lasting marker. All tillage and planting operations shall be parallel to the established marker. If a marker is lost, re-establish a contour baseline within the applicable criteria set forth by this standard prior to seedbed preparation for the next crop.

Farming operations should begin on the contour baselines and proceed both up and down the slope in a parallel pattern until patterns meet. Where contour row curvature becomes too sharp to keep machinery aligned with rows during field operations, establish sod turn strips on sharp ridge points or other odd areas as needed.

332 Contour Buffer Strips
Establish narrow strips of permanent, herbaceous vegetative cover across the slope and alternated down the slope with parallel, wider cropped strips. Request technical assistance to establish the baselines and layout for the contour buffer strips.

Establish the contour buffer strip perennial vegetative cover using the following species and seeding rates.
Seed [ ] @ [ ] Lbs./ac during the period of [specify seeding period] dates,
Plus Seed [ ] @ [ ] Lbs./ac,
Plus Seed [ ] @ [ ] Lbs./ac

Fertilizer Application:
Apply [ ] Lbs of Nitrogen/Acre, plus [ ] Lbs of Phosphorus (P_2O_5)/Acre, plus [ ] Lbs of Potash (K_2O)/Acre. Or, apply [ ] Lbs per acre of the analysis [ ].

Operation and Maintenance:
Conduct all farming operations parallel to the strip boundaries except on headlands or end rows.

Time mowing of buffer strips to maintain appropriate vegetative density and height for optimum trapping of sediment from the upslope cropped strip during the critical erosion period(s). If wildlife enhancement is desired, delays mowing until after the desired species of ground nesting birds have hatched.

Fertilize buffer strips as needed to maintain stand density.

Mow sod turn strips and waterways at least annually.

Spot seed or totally renovate buffer strip systems damaged by herbicide application after residual action of the herbicide is complete.

Redistribute sediment accumulations along the upslope edge of the buffer-crop strip interface upslope over the cultivated strip when needed to maintain uniform sheet flow along the buffer/cropped strip boundary. If sediment accumulates just below the upslope edge of the buffer strip to a depth of 6 inches or stem density falls below specified amounts in the buffer strip, relocate the buffer/cropped strip interface location.

Cultivated strips and buffer strips shall be rotated so that a mature stand of protective cover is achieved in a newly established buffer strip immediately below or above the old buffer strip before removing the old buffer to plant an erosion-prone crop. Alternate repositioning of the buffer strips to maintain their relative position on the hill slope.

Renovate vegetated headlands or end row area as needed to keep ground cover above 65 percent.

340 Cover Crop
A cover crop of [ ] will be established following the [ ] crop.
Seed [ ] @ [ ] Lbs./ac during the period of [ ] dates, or...
Seed [ ] @ [ ] Lbs./ac, or …
Seed [ ] @ [ ] Lbs./ac
The cover crop will be killed by [ ] on or about [dates].

342 Critical Area Planting
Vegetation will be established on severely eroding areas or other areas requiring extraordinary means to establish vegetation.
Seed [ ] @ [ ] Lbs./ac during the period of [ ] dates, Plus…
Seed [ ] @ [ ] Lbs./ac, and…
Seed [ ] @ [ ] Lbs./ac
and mulch with [ ] at [ ] tons/ac.

Fertilizer Application:
Apply [ ] Lbs of Nitrogen/Acre, plus [ ] Lbs of Phosphorus (P_2O_5)/Acre, plus [ ] Lbs of Potash (K_2O)/Acre. Or, apply [ ] Lbs per acre of the analysis [ ].
Operation and Maintenance:
The area shall be managed as long as necessary to stabilize the site and achieve the intended purpose.

Control or exclude animals or people that will interfere with the timely establishment of vegetation.

Inspect, reseed or replant, fertilize, and control pests to ensure that this practice functions as intended throughout its expected life.

344 Residue Management, Seasonal
The [ ] crop residue will be maintained during the [ ] period with [ ] % ground cover until seedbed preparation for the [ ] crop.
The [ ] crop residue will be maintained during the [ ] period with [ ] % ground cover until seedbed preparation for the [ ] crop.
The [ ] crop residue will be maintained during the [ ] period with [ ] % ground cover until seedbed preparation for the [ ] crop.

345 Residue Management, Mulch Till
Mulch tillage techniques will be used to manage the planned amounts, orientation and distribution of organic residue on the soil surface.

Operation and Maintenance:
The [ ] crop residue will be mulched tilled using [equipment] with [ ] % crop residue cover after planting [ ].
The [ ] crop residue will be mulched tilled using [equipment] with [ ] % crop residue cover after planting [ ].
The [ ] crop residue will be mulched tilled using [equipment] with [ ] % crop residue cover after planting [ ].
The [ ] crop residue will be mulched tilled using [equipment] with [ ] % crop residue cover after planting [ ].

346 Residue Management, Ridge Till
A ridge till system will be used to manage the planned amounts and orientation of crop residues. The crops [ ] will be planted on the preformed ridges. Ridges will be rebuilt/maintained using a ridge till cultivator after crop establishment.

350 Sediment Basin
Install a sediment basin where shown on the plan map. An engineering plan with construction specifications will be provided for the installation of the sediment basin.

Operation and Maintenance:
Inspect the sediment basin after major storms for damage that may affect its function and performance. Any damage will be promptly repaired.

Mow as needed to maintain adequate vegetative cover and to prevent the establishment of undesirable species on the earthen fill.

362 Diversion
Construct a channel across the slope with an embankment on the lower side to divert water from its natural flow. An engineering plan with construction specifications will be provided for the installation of this practice.

Seed [ ] @ [ ] lbs./ac and mulch with [ ] at [ ] tons/ac during the [ ] seeding dates.

Fertilizer Application:
Apply [ ] Lbs of Nitrogen/Acre, plus [ ] Lbs of Phosphorus (P_2O_5)/Acre, plus [ ] Lbs of Potash (K_2O)/Acre. Or, apply [ ] Lbs per acre of the analysis [ ].

Operation and Maintenance:
Perform periodic inspections, especially immediately following significant storms.

Promptly repair or replace damaged components of the diversion as necessary.

Remove sediment and re-establish grass in areas damaged by sediment.

Remove sediment and other debris around the inlets for underground outlets.

Inlets damaged by farm machinery must be replaced or repaired immediately.

Redistribute sediment as necessary to maintain the capacity of the diversion.

Maintain the planned grass cover and control any trees and brush by hand, chemical and/or mechanical means.

Keep machinery away from steep-sloped ridges.

378 Pond
Construct a pond to provide water. An engineering plan will be provided detailing the installation and material specifications for the pond.

Operation & Maintenance:
Earthen slopes shall be checked for rills and gullies. Seeding shall be as necessary to maintain a grass cover. Weeds shall be controlled. The top of dam and outside slopes shall be mowed annually to discourage weed growth and allow closer examination of the earth embankment.

Quickly remove woody vegetation that begins to grow on the embankment to prevent root establishment.

Earthen slopes shall be checked for soft or damp/wet areas that may be a sign of potential leakage. Burrowing animals in the slopes shall be controlled. Animals shall be immediately removed and the burrow holes filled.

Fencing/gates shall be maintained around the structure to exclude animals and humans at all times.

Safety equipment (life buoys, ropes) and warning signs shall be maintained and checked periodically for wear.

380 Windbreak/Shelterbelt Establishment
A [#] row windbreak will be established consisting of [name species] as shown on the plan map. A planting plan will be provided to detail the plants to be planted, spacing, the timing and method(s) of planting.

Operation and Maintenance:
Replace dead trees or shrubs until the windbreak/shelterbelt is functional.

Supplemental water will be provided as needed.

Inspect trees and shrubs periodically and protect from adverse impacts including insects, diseases or competing vegetation. The trees or shrubs will also be protected from fire and damage from livestock and wildlife.

382 Fence
Construct a fence for use as a barrier to wildlife, livestock, or people. A "Fencing Plan" will be provided specifying the type of fencing materials and installation specifications.

Operation and Maintenance:
Inspect the fences on a regular basis. Inspect fences after storm events. Maintenance and repairs will be performed in a timely manner as needed.

386 Field Border
Establish field borders where shown on the plan map. Establish the field borders with perennial vegetation.
Seed [ ] @ [ ] Lbs./ac during the period of [specify seeding period] dates,
Plus Seed [ ] @ [ ] Lbs./ac,
Plus Seed [ ] @ [ ] Lbs./ac

Fertilizer Application:
Apply [ ] Lbs of Nitrogen/Acre, plus [ ] Lbs of Phosphorus (P_2O_5)/Acre, plus [ ] Lbs of Potash (K_2O)/Acre. Or, apply [ ] Lbs per acre of the analysis [ ].

Operation and Maintenance:
Repair storm damage.

Remove sediment from above or within the field border when accumulated sediment either alters the function of the field border or threatens the degradation of the planted species' survival.

Shut off sprayers and raise tillage equipment to avoid damage to field borders.

Shape and reseed border areas damaged by animals, chemicals, tillage, or equipment traffic. Maintain desired vegetative communities and plant vigor by liming, fertilizing, mowing, disking, and controlling noxious weeds to sustain effectiveness of the border.

Repair and reseed ephemeral gullies and rills that develop in the border.

Avoid vehicle traffic when soil moisture conditions are saturated.

390 Riparian Herbaceous Cover
Establish a riparian herbaceous perennial cover where shown on the plan map.
Seed [ ] @ [ ] Lbs./ac during the period of [specify seeding period] dates,
Plus Seed [ ] @ [ ] Lbs./ac,
Plus Seed [ ] @ [ ] Lbs./ac

Fertilizer Application:
Apply [ ] Lbs of Nitrogen/Acre, plus [ ] Lbs of Phosphorus (P_2O_5)/Acre, plus [ ] Lbs of Potash (K_2O)/Acre. Or, apply [ ] Lbs per acre of the analysis [ ].

Operation and Maintenance:
Inspect the riparian cover periodically to maintain the intended purpose from adverse impacts such as excessive vehicular and pedestrian traffic, pest infestations, pesticide use on adjacent lands, livestock damage and fire.

Control concentrated flow erosion or mass soil movement in the up-gradient area to maintain the riparian function.

391 Riparian Forest Buffer
A riparian forest buffer will be [established/maintained] where shown on the plan map.
A "Riparian Forest Buffer Planting Plan" will be provided that outline the species to plant, time and method of planting, and spacing.

Operation and Maintenance:
Inspect the riparian forest buffer periodically and protect from adverse impacts such as excessive vehicular and pedestrian traffic, pest infestations, concentrated flows, pesticides, livestock or wildlife damage and fire.

Replace dead trees or shrubs, and control of undesirable vegetative competition will be continued until the buffer is, or will progress to, a fully functional condition.

393 Filter Strip
Establish a strip of perennial vegetation for trapping sediment and other pollutants from runoff or waste water. Establish and maintain a grass filter strip [ ] feet wide.
Seed to [ ] @ [ ] lbs./ac, plus ...
Seed to [ ] @ [ ] lbs./ac, plus …
Seed to [ ] @ [ ] lbs./ac, plus …
Seed to [ ] @ [ ] lbs./ac

Fertilizer Application:
Apply [ ] Lbs of Nitrogen/Acre, plus [ ] Lbs of Phosphorus (P_2O_5)/Acre, plus [ ] Lbs of Potash (K_2O)/Acre. Or, apply [ ] Lbs per acre of the analysis [ ].

Operation and Maintenance:
Harvest the filter strip vegetation annually to encourage dense growth, maintain an upright growth habit and remove nutrients and other contaminants that are contained in the plant tissue.

Control undesired weed species, especially State-listed noxious weeds.

Inspect the filter strip after storm events and repair any gullies that have formed, remove unevenly deposited sediment accumulation that will disrupt sheet flow, and reseed disturbed areas.

Apply supplemental nutrients as needed and manage desirable pH to maintain the desired species composition and stand density of the filter strip.

Periodically regrade the filter strip area when sediment deposition at the filter strip-field interface jeopardizes its function. Reestablish the filter strip vegetation in these regraded areas, if needed.

410 Grade Stabilization Structure
Install a structure to control the grade and head cutting.
An engineering plan with construction specifications will be provided for the installation of this practice.

Operation & Maintenance:
Inspect the structure after major storms and repair any damages as soon as practical.

412 Grassed Waterway
Shape a natural or constructed channel and establish adapted vegetation for the stable conveyance of runoff water. An engineering plan with construction specifications will be provided for the installation of the grassed waterway.

Operation & Maintenance:
Mow or harvest the waterway vegetation at least once annually. Visually inspect waterway after large storms and repair damage as soon as practical.

422 Hedgerow Planting
A [# rows] row hedgerow will be established consisting of [ ] as shown on the plan map. A planting plan will be provided to detail the plants to be planted and the timing and method(s) of planting.

Operation and Maintenance:
Supplemental replanting may be required when survival is too low to produce a continuous hedgerow.
Vegetation shall be protected from unwanted fire and grazing.
Pests shall be monitored and controlled.

449 Irrigation Water Management
Manage the application of irrigation water to determine and control the volume, frequency, and application rate of irrigation water in a planned, efficient manner. An "Irrigation Water Management Plan" will be provided detailing the management techniques to manage irrigation water.

450 Anionic Polyacrylamide (PAM) Erosion Control
Apply PAM during the first irrigation and after any soil disturbance and during later irrigations if soil movement is observed. Apply [ ] Lbs./Acre
Apply mixed concentrations of PAM to irrigation water only during the advance phase of a surface irrigation. The advance phase shall be considered the time irrigation starts until water has advanced to the end of the field. Apply dry or "patch" treatments of PAM to the first five (5) feet of furrow.
Operation and Maintenance:
Reapply PAM to disturbed or tilled areas, including high traffic use areas.

Monitoring advance phases of the irrigation to assure applications are discontinued when runoff begins.

Operate and maintain equipment to provide uniform application rates.

Maintain screens and filtering facilities.

Rinse all PAM mixing and application equipment thoroughly with water to avoid formation of PAM residues.

472 Use Exclusion
A [ ] type barrier will be installed to exclude [ ] from the area where shown on the plan map.

511 Forage Harvest Management
Harvest [ ] at growth stage [ ]. Do not cut shorter than [ ] inches. Do not harvest after [ ].
Harvest [ ] at growth stage [ ]. Do not cut shorter than [ ] inches. Do not harvest after [ ].
Harvest [ ] at growth stage [ ]. Do not cut shorter than [ ] inches. Do not harvest after [ ].
Harvest [ ] at growth stage [ ]. Do not cut shorter than [ ] inches. Do not harvest after [ ].

Operation and Maintenance:
Before forage harvest, clear fields of debris that could damage machinery or if ingested by livestock, lead to sickness (for example, hardware disease) or death.
Operate all forage harvesting equipment at the optimum settings and speeds to minimize loss of leaves.
Set shear-plate on forage chopper to the proper theoretical cut for the crop being harvested.
Keep knives well sharpened. Do not use re-cutters or screens unless forage moisture levels fall below recommended levels for optimum chopping action.
Regardless of silage/haylage storage method, ensure good compaction and an airtight seal to exclude oxygen and mold formation.

512 Pasture and Hay Planting
Establish forage species for grazing or mechanical harvest. Seed during the [ ] seeding dates.
Seed [ ] @ [ ] lbs./ac, plus …
Seed [ ] @ [ ] lbs./ac, plus …
Seed [ ] @ [ ] lbs./ac, plus …
Lime and fertilize per soil test requirements.

516 Pipeline
Install a pipeline to convey water from supply source to points of use.
An engineering plan will be provided detailing the installation and material specifications for the pipeline.

Operation and Maintenance:
Inspect and test valves, pressure regulators, pumps, switches and other appurtenances to ensure proper functioning.

Check for debris, minerals, algae and other materials which may restrict system flow.

528 Prescribed Grazing
Grazing will be managed according to a schedule that meets the needs of the soil, water, air, plant and animal resources and the objectives of the resource manager.
A “Prescribed Grazing and Maintenance Plan” will be provided to you that outline the grazing and rest periods for your specific operation.

554 Drainage Water Management
Install drainage control structures/pumps to manage subsurface water in the root zone. An engineering plan with construction specifications will be provided for the installation of the drainage water management system.

Operation and Maintenance:
The drainage water shall be held back during the following periods:
Close during [ ] and opened to drain after [ ]
Close during [ ] and opened to drain after [ ]
Close during [ ] and opened to drain after [ ]

Inspect drainage water structures periodically and especially after storm events, and repair as needed to ensure proper functioning.

557 Row Arrangement
Row crops will be planted in specific directions and grade to provide [adequate drainage, erosion control, optimal use of rainfall and irrigation water].
Field(s) [ ] will have a row direction oriented [ ] with a grade of [%] for crops [ ].
Field(s) [ ] will have a row direction oriented [ ] with a grade of [%] for crops [ ].
Field(s) [ ] will have a row direction oriented [ ] with a grade of [%] for crops [ ].
Field(s) [ ] will have a row direction oriented [ ] with a grade of [%] for crops [ ].

560 Access Road
Build a designated route or constructed travel way to be used by vehicles necessary for management of the operation. An engineering plan with construction specifications will be provided for the installation of the access road.

Operation & Maintenance:
Inspect roadway following significant rainfall events. Repair damaged areas as soon as practical. Limit traffic during periods when use may cause damage to the surface.

561 Heavy Use Area Protection
Protect heavily used areas by providing soil protection with vegetation, surfacing material or mechanical structures. A seeding/engineering plan will be provided detailing the installation specifications.
The following area(s):
1. [ ] will be protected by maintaining [ ] cover on the designated areas.
2. [ ] will be protected by maintaining [ ] cover on the designated areas.
3. [ ] will be protected by maintaining [ ] cover on the designated areas.

Operation & Maintenance:
Limit access to the area during poor soil / weather situations to protect the cover.
Inspect the heavy use area after significant storms and repair damaged areas as soon as practical.

Manure will be removed from the heavy use area when the depth reaches [ ] inches.

574 Spring Development
Spring(s) will be developed to provide a water source for livestock.
An engineering plan will be provided detailing the installation and material specifications for the spring development.

Operation & Maintenance:
Periodically check the spring box to ensure inlets and outlets are in operating condition.

Clean sediment from the spring box periodically to ensure proper function, improve the quality of the spring water, and maintain the pipelines.

575 Animal Trails and Walkways
Construct a trail or walkway to improve grazing distribution and access to food and water. An engineering plan with construction specifications will be provided for the installation of the trail/walkway.

Operation & Maintenance:
Repair damaged areas as soon as practical. Limit traffic during periods when use may cause damage to the surface.

580 Streambank and Shoreline Protection
[Vegetation and/or structures] will be used to stabilize and protect [streambank or shoreline] against scour and erosion.
An engineering plan will be provided detailing the installation and material specifications for the [streambank or shoreline] stabilization.

585 Stripcropping
Grow crops in [specify contour or field] strips so that a protective strip of grass or close growing crop is alternated with a strip providing less soil protection.

587 Structure for Water Control
A structure for water control will be installed for the purpose(s) of [ ]. An engineering plan with construction specifications will be provided for the installation of the structure for water control.

Operation and Maintenance:
Inspect structures will be checked for debris removal after major storms and at least semi-annually.

589c Cross Wind Trap Strips
Establish perennial plants in two or more strips across the prevailing wind direction to trap wind-blown sediment. Trap strips will be [ ] feet wide and spaced [ ] feet between strips.
Seed [ ] @ [ ] Lbs./ac during the period of [ ] dates, Plus…
Seed [ ] @ [ ] Lbs./ac, and…
Seed [ ] @ [ ] Lbs./ac

Fertilizer Application:
Apply [ ] Lbs of Nitrogen/Acre, plus [ ] Lbs of Phosphorus (P_2O_5)/Acre, plus [ ] Lbs of Potash (K_2O)/Acre. Or, apply [ ] Lbs per acre of the analysis [ ].

Operation and Maintenance:
After establishment, perennial trap strips shall be fertilized as needed to maintain plant vigor. Noxious weeds shall be controlled with mowing or chemicals.

Mowing or grazing of trap strips shall be managed to allow regrowth to the planned height before periods when wind erosion or crop damage is expected to occur.

Wind-borne sediment accumulated in trap strips shall be removed and distributed over the surface of the field as determined appropriate.

Trap strips shall be re-established or relocated as needed to maintain plant density and height.

590 Nutrient Management
Manage the amount, form, placement and timing of plant nutrient application. See the enclosed "Nutrient Management" element of the CNMP for the proper application rates, timing, and methods of application to provide needed crop nutrients and to minimize the movement of nutrients to ground and surface water.

595 Pest Management
Manage infestations of weeds, insects and disease to reduce adverse effects on plant growth, crop production and material resources. A “Pest Management Plan” for this practice will be provided detailing the pest management activities for your operation.

600 Terrace
Install a terrace system as part of the erosion control system. An engineering plan with construction specifications will be provided for the installation of the terrace system.

Operation and Maintenance:
Inspect terraces periodically and especially following runoff events.

Promptly repair or replace damaged components as necessary.

Remove sediment that has accumulated in the terrace to maintain capacity, a positive channel grade, and to maintain capacity where soil infiltration serves as the outlet.

Control trees and brush on the terraces by chemical or mechanical means.

Keep machinery away from steep back sloped terraces.

601 Vegetative Barrier
Establish permanent strips of stiff, dense vegetation along the general contour of slopes or across concentrated flow areas. The planned vegetative barrier width is [ ] feet. The spacing between vegetative barriers will be [ ] feet. For vegetative barriers in a concentrated flow area, the minimum length is [ ] feet.

The vegetative barrier will be established from seed.
Seed [ ] @ [ ] Lbs./ac during the period of [specify seeding period] dates,
Plus Seed [ ] @ [ ] Lbs./ac,
Plus Seed [ ] @ [ ] Lbs./ac

Fertilizer Application:
Apply [ ] Lbs of Nitrogen/Acre, plus [ ] Lbs of Phosphorus (P_2O_5)/Acre, plus [ ] Lbs of Potash (K_2O)/Acre. Or, apply [ ] Lbs per acre of the analysis [ ].

The vegetative barrier will be established using the [cuttings, rhizomes, etc.] of [specify species], and spaced [ ] inches apart in the row.

Operation and Maintenance:
Re-establish establishment failures immediately. Re-establish short gaps in seeded barriers immediately with transplanted plant material.

Mow herbaceous barriers to encourage the development of a dense stand and prevent shading of crops in adjacent fields. Do not mow closer than 15 inches. Mowing in concentrated flow areas is discouraged because it will lower the vegetative stiffness index (VSI) by reducing average stem diameter. Weed control will be accomplished by mowing or by spraying or wick application of labeled herbicides.

Protect vegetation in the barrier from pesticides used in the cropped field.

Crop tillage and planting operations will be parallel with the vegetative barrier.

Repair washouts or rills that develop immediately. Short gaps in established barriers will be re-established with transplanted plant material.

Do not use vegetative barriers as a field road or turn row. Do not cross vegetative barriers in concentrated flow areas with machinery.

603 Herbaceous Wind Barriers
Establish [# rows] row or strips of [perennial or annual] herbaceous vegetation spaced [ ] [feet/inches] apart consisting of [ ] across the prevailing wind direction to reduce wind erosion, protect growing crops, and improve moisture management. Barriers will be spaced [ ] feet apart across the field and oriented in a [ ] direction.

Seed [ ] Lbs/Acre plus,
Seed [ ] Lbs/Acre plus,
Seed [ ] Lbs/Acre

Operation and Maintenance:
Annual barriers shall be re-established each year by planting at recommended dates, leaving rows standing and maintained throughout the [ ] critical period for which the barrier was designed.

Gaps in perennial barriers shall be replanted as soon as practical to maintain barrier effectiveness.

After establishment, perennial barriers shall be fertilized as needed. Weeds shall be controlled by cultivation, spot treatment when using chemicals, or other acceptable methods.

Wind-borne sediment accumulated in barriers shall be removed and distributed over the surface of the field as determined appropriate.

Barriers shall be re-established or relocated as needed.

Barriers composed of perennial vegetation that are designed to enhance wildlife habitat should not be mowed unless their height or width exceeds that required to achieve the barrier purpose, or they become competitive with the adjoining land use. When mowing is necessary, it shall be done during the non-nesting season.

606 Subsurface Drain
Subsurface drainage (tile) will be installed to collect and/or convey subsurface drainage water. An engineering plan will be provided detailing the installation and material specifications for the subsurface drainage (tile) installation.

Operation & Maintenance:
Visually inspect field for "holes" that may indicate broken tile during field operations. Repair broken tile as soon as practical.

Visually inspect tile outlets to ensure they are not plugged, have animal guards, and are in operating order.

607 Surface Drainage, Field Ditch
Install a surface drainage system to collect/intercept excess surface water from the field(s). An engineering plan with construction specifications will be provided for the installation of the surface drainage system.

Operation and Maintenance:
Inspect the surface drains on periodic inspections and after significant storm events to detect and minimize damage to the ditch(es). Repair damaged areas as soon as possible.

608 Surface Drainage, Main/Lateral
Install or reconstruct the surface drainage main/lateral to remove excess surface water and subsurface water. An engineering plan with construction specifications will be provided for the installation of the surface drainage main/lateral.

Operation and Maintenance:
Inspect the surface drain on periodic inspections and after significant storm events to detect and minimize damage to the ditch. Repair damaged areas as soon as possible.

620 Underground Outlet
Install a subsurface pipe to collect and safely convey surface water to a suitable outlet.
An engineering plan will be provided detailing the installation and material specifications for the underground outlet (tile) installation.

Operation & Maintenance:
Periodically, and especially after major runoff events, inspect the inlet to ensure designed flow. Check outlets to ensure they are not plugged.

633 Waste Utilization
The enclosed "Nutrient Management Plan" will detail the proper manure application rates, timing, and methods of application to provide needed crop nutrients and to minimize the transport of nutrients to ground and surface water.